

Description of the hitherto unknown female of *Zeuxidia mesilauensis* Barlow, 1971 (Lepidoptera, Nymphalidae, Morphinae)

Christian H. SCHULZE¹⁾ and Christoph L. HÄUSER^{2)*}

¹⁾Department of Animal Ecology I, University of Bayreuth,
D-95440 Bayreuth, Germany; e-mail: Chr.H.Schulze@gmx.de

²⁾Staatliches Museum für Naturkunde [State Museum of Natural History],
Rosenstein 1, D-70191 Stuttgart, Germany; e-mail: chaeuser@gmx.de

Abstract The female of *Zeuxidia mesilauensis* is described for the first time based on a single specimen from Mount Kinabalu, Sabah, East Malaysia.

Key words *Zeuxidia mesilauensis*, Nymphalidae, Morphinae, Amathusiini, Mount Kinabalu, Borneo, endemism.

Introduction

The Morphinae genus *Zeuxidia* Hübner, 1826 is distributed in the Oriental region and comprises nine species ranging from Burma to Sundaland and the Philippines (Corbet & Pendlebury, 1992; D'Abrera, 1985). *Zeuxidia* species are typical elements of closed forest habitats and generally are found in dense forest understorey (Schulze & Fiedler, 1998). Both sexes of all recognised species of the genus are illustrated by D'Abrera (1985), except for the female of *Zeuxidia mesilauensis* Barlow, 1971 which apparently is still unrecorded. This species was discovered only in 1964 during an expedition by The Royal Society to Mt Kinabalu on northern Borneo (Sabah, Malaysia), and was described based on a single male specimen now deposited in The Natural History Museum, London (see Barlow *et al.*, 1971). Subsequently, additional male specimens of *Z. mesilauensis* have been collected on Mt Kinabalu by Japanese entomologists and members of Sabah Parks staff, some of which have been illustrated by Otsuka (1988: pl. 41). The species is endemic to the island of Borneo and so far only known from the vicinity of its type locality on Gunung Kinabalu in Sabah (Otsuka, 1988). Both Corbet & Pendlebury (1992) and Otsuka (1988) state that the female of *Z. mesilauensis* is still unknown.

During joint field work undertaken by both authors in Mt Kinabalu Park between 1993 and 1999 to record and monitor the local butterfly fauna (Häuser *et al.*, 1997; Schulze, 1995), we collected a single female *Zeuxidia* specimen which was initially thought to represent *Z. doubledayi* Westwood, 1851. After preparation of the specimen, however, it proved to be quite distinct from known females of *Z. doubledayi*, and was found to closely match males of *Z. mesilauensis* in wing pattern. Therefore, we regard it as belonging to this species and here describe the female of *Zeuxidia mesilauensis* for the first time.

Description and diagnosis of the female of *Zeuxidia mesilauensis* (Figs 1a, 1b)

Forewing length. 57 mm. Wing shape and underside wing pattern similar to males of *Z. mesilauensis* (see D'Abrera, 1985: 507; Otsuka, 1988: pl. 41). Forewing upperside with a

*Corresponding author: C. L. HÄUSER, tel: +49-711-8936-223, fax: +49-711-8936-100.

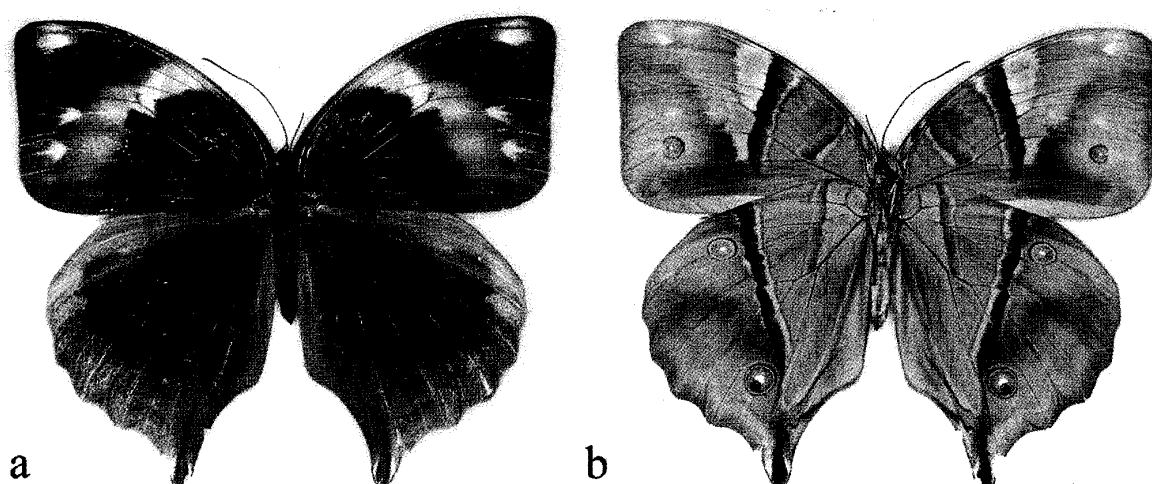


Fig. 1. Female specimen of *Zeuxidia mesilauensis* (a: dorsal view, b: ventral view).

postdiscal blue band narrow compared to males, mixed with white towards the anterior margin, and submarginally with two white spots in spaces 2 and 3; the apical spot prominent, also white. Hindwing upperside without any blue postdiscal band. Underside of both wings matching exactly the male pattern, except for the absence of blue markings near the forewing hind margin.

From the *Zeuxidia* species recorded from Borneo, the female of *Z. mesilauensis* is most similar to the female of *Z. doubledayi*, from which it can be best distinguished by the following characters: Forewing upperside with a postdiscal blue band continuous towards the anal margin, not dissolved into individual spots; a white apical spot well developed; underside of wings with all markings bolder; the straight postdiscal dark band on both wings contrasted with a pale line along both margins; forewing underside with a small, well developed eye spot in space 2; hindwing with eye spot bordering vein M_1 (space 6) brightly orange.

Collecting data: 1 ♀, Borneo (Malaysia), Sabah, Mt Kinabalu Park, Park Headquarters, 1,200–1,500 m, 6. IV. 1994, deposited in SMNS. The specimen was netted at daytime flying close to the ground in the forest understorey near a small stream.

Discussion

The habitat of *Zeuxidia* species in general are understorey sites of closed forests, where they can be especially abundant along streams (Schulze & Fiedler, 1998). While the vertical distribution of the other three species of *Zeuxidia* on Mount Kinabalu ranges from the lowland dipterocarp to the lower montane forest (see Häuser *et al.*, 1997), *Z. mesilauensis* seems to be restricted to the lower montane forest zone. So far, only two sites are known for the species: (1) the type locality, Mesilau plateau at an altitude of *ca* 1,500 m, which today is largely destroyed through conversion into a golf course, and (2) the area around Mt Kinabalu Park Headquarters, from which the present female also originated. However, there is a high potential for a more widespread occurrence in further mountain ranges on northern Borneo (*e. g.* at similar altitudes in the neighbouring Crocker Range). *Zeuxidia* specimens are not frequently collected and, therefore, it would not be surprising when future field surveys will result in records from additional sites like in other “previous” Mt Kinabalu endemics.

Acknowledgements

We thank the directors of Sabah Parks, Datuk Lamri Ali and Francis Liew, Kota Kinabalu, for granting permission to work at Mt Kinabalu Park, and we are grateful to Prof. Dr K. E. Linsenmair, University of Würzburg, for logistic support during our field work.

References

- Barlow, H. S., Banks, H. J. & J. D. Holloway, 1971. A collection of Rhopalocera (Lepidoptera) from Mt. Kinabalu, Sabah, Malaysia. *Orient. Insects* **5**: 269–296.
- Corbet, A. S. & H. M. Pendlebury, 1992. *The Butterflies of the Malay Peninsula* (4th Edn, revised by Eliot, J. N.). 595 pp., 69 pls. Malayan Nature Society, Kuala Lumpur.
- D'Abrera, B., 1985. Nymphalidae, Satyridae, Amathusidae. *Butterflies of the Oriental Region* **2**. [vi], 246–534 pp. Hill House, Melbourne.
- Häuser, C. L., Schulze, C. H. & K. Fiedler, 1997. The butterfly species (Insecta: Lepidoptera: Rhopalocera) of Kinabalu Park, Sabah. *Raffles Bull. Zool.* **45**: 281–304.
- Otsuka, K., 1988. *Butterflies of Borneo* **1**. xix, 61 pp., 62 pls. Tobishima Corp., Tokyo.
- Schulze, C. H., 1995. *Die Tagfalterzönose eines südostasiatischen Regenwaldes—Muster und Mechanismen der Stratifikation*. M. Sc. thesis, University of Würzburg, Germany.
- Schulze, C. H. & K. Fiedler, 1998. Habitat preference and flight activity of Morphinae butterflies in a Bornean rain forest, with a note on sound production by adult *Zeuxidia* (Lepidoptera: Nymphalidae). *Malay. Nat. J.* **52**: 163–176.

摘要

メシラウエンシストガリバワモンの雌の発見と記載 (Christian H. Schulze and Christoph L. Häuser)

Zeuxidia mesilauensis Barlow, 1971, メシラウエンシストガリバワモンは従来♂のみが知られていた。私達は、1994年4月、ボルネオのキナバル公園にて本種の♀を得ているので、ここに記載した。採集当初は、同属の *Z. doubledayi* Westwood, 1951, ダブルデイトガリバワモンと考えていたが、図示したように既知の同種の♀とは全く異なり、*mesilauensis* の♂とよく一致する。前翅長 57 mm. 前翅表では中央外寄りの青色帯は♂に比べて幅狭く、前縁に向けて白色を混じ、2室と3室には外方に白点を伴う；翅端の白紋は目立つ。後翅表には青色帯を欠く。前後翅とも裏面は、前翅後縁近くの青色紋を欠く以外は♂とほぼ同じである。

[文責: 吉本 浩/Hiroshi Yoshimoto]

(Accepted September 1, 2000)